



October 26, 2017

Mr. Anthony Krone
Risk Manager
Shelby County Schools
160 South Hollywood – Room 152
Memphis, Tennessee 38112

**RE: Lead in Drinking Water Sampling
Delano Elementary School
1716 Delano Ave
Memphis, Tennessee
Tioga Project No.: 24816.03**

Dear Mr. Krone,

At the request of Shelby County Schools (the Client), Tioga Environmental Consultants (Tioga) performed sampling of drinking water sources at the above referenced school for laboratory analysis of total lead concentrations. At the request of the Client, sampling was conducted on potable water sources in the kitchen and water fountains throughout the first floor of the school. Sampling was conducted early in the morning, before any potable water sources had been used for the day and prior to the arrival of any students or faculty.

On October 10, 2017, Tioga representative Phillip Gardner arrived onsite and was escorted through the building by Shelby County Schools risk management personnel. First-draw potable water samples were collected in accordance with the Environmental Protection Agency (EPA) regulations codified in 40 CFR 141.86, and were documented and transferred under chain-of-custody protocol to Waypoint Analytical Laboratories in Memphis, Tennessee for analysis of total lead content.

Results Based on Laboratory Analysis:

Table 1 on the following page summarizes the sampling locations, laboratory analytical results, and EPA action level for lead in drinking water. Sample results with a "<" symbol did not contain lead content above the laboratory detection limit. Samples highlighted in yellow exceeded the EPA action level for lead.

Down-to-earth partners. Sky's-the-limit solutions.

Table 1
Summary of Analytical Results
Delano Elementary School
October 10, 2017

Sample ID	Sample Location	Total Lead (µg/L)	EPA Action Level (µg/L)
49-1	Main Kitchen Sink	17.2	15
49-2	High Cooler in Cafeteria to the Right of Kitchen	1.49	
49-3	Low Cooler in Cafeteria to the Left of Kitchen	8.76	
49-4	Left Bubbler Next to Girls Restroom	3.66	
49-5	Right Bubbler Next to Boiler Room	4.04	
49-6	Bubbler Across From Cafeteria	1.61	
49-7	Bubbler Across From Guidance	1.43	

(µg/L) = Micrograms of lead per liter of water (parts per billion)

A review of the laboratory analytical results of the water samples collected revealed 1 sample with total lead concentrations above the EPA action level for drinking water. This sample was collected from the main sink in the kitchen.

Recommendations:

Based upon the laboratory analytical results of the seven potable water samples collected from Delano Elementary School, Tioga recommends that the sink above the EPA action level be removed from service immediately. Due to the potential for lead solder and/or other lead-containing components in certain water delivery installations, Tioga recommends that all water sources of similar style to the impacted water source also be removed from service pending further investigation. Due to elevated lead levels being discovered in water sources at this site, Tioga recommends additional testing of all potable water sources at the site to determine all potential potable water sources with elevated lead levels.

Limitations

Potable water sources with elevated lead levels may potentially be present in areas of the property that are not addressed with this report. This investigation only included the potable water sources specifically addressed.

We appreciate the opportunity to provide you with this service. Should you have any questions regarding this report, please contact me at (901) 791-2432.

Sincerely,

TIOGA ENVIRONMENTAL CONSULTANTS, INC.



Margaret F. Strom, QEP, CHMM
President

Enclosure: (1) Laboratory Analytical Report

10/20/2017

Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis, TN, 38103

Ref: Analytical Testing
Lab Report Number: 17-285-0206
Client Project Description: Site 49
Project #24816.03

Dear Ms. Maggie Strom:

Waypoint Analytical, Inc. received sample(s) on 10/11/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,



Andy Parrish
Project Manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Alabama #40750	Louisiana #04015	VA NELAP #460181	Texas #T104704180-11-6	Arkansas #88-0650
Mississippi	California #2904	NC #415	Oklahoma #9311	Virginia #00106
Kentucky #90047	Tennessee #TN02027	EPA #TN00012	Kentucky UST #41	



06510

Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis , TN 38103

Project Site 49
Information : Project #24816.03

Report Date : 10/20/2017

Report Number : **17-285-0206**

REPORT OF ANALYSIS

Received : 10/11/2017

Lab No : **91036**

Sample ID : **49-1**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:10**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	17.2	µg/L	0.500	1	10/17/17 14:35	BKN	EPA-200.8

Lab No : **91037**

Sample ID : **49-2**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:11**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	1.49	µg/L	0.500	1	10/17/17 14:37	BKN	EPA-200.8

Lab No : **91038**

Sample ID : **49-3**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:12**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	8.76	µg/L	0.500	1	10/17/17 14:38	BKN	EPA-200.8

Lab No : **91039**

Sample ID : **49-4**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:15**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	3.66	µg/L	0.500	1	10/17/17 14:39	BKN	EPA-200.8

Qualifiers/ Definitions

DF

Dilution Factor

MQL

Method Quantitation Limit

06510

Tioga Environmental Consultants
Ms. Maggie Strom
357 N. Main Street
Memphis , TN 38103

Project Site 49
Information : Project #24816.03

Report Date : 10/20/2017

Report Number : **17-285-0206**

REPORT OF ANALYSIS

Received : 10/11/2017

Lab No : **91040**

Sample ID : **49-5**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:15**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	4.04	µg/L	0.500	1	10/17/17 14:41	BKN	EPA-200.8

Lab No : **91041**

Sample ID : **49-6**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:16**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	1.61	µg/L	0.500	1	10/17/17 14:42	BKN	EPA-200.8

Lab No : **91042**

Sample ID : **49-7**

Matrix: **Aqueous**

Sampled: **10/10/2017 8:17**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Total Lead	1.43	µg/L	0.500	1	10/17/17 14:54	BKN	EPA-200.8

Qualifiers/ Definitions

DF

Dilution Factor

MQL

Method Quantitation Limit

Cooler Receipt Form

Customer Number: **06510**

Customer Name: **Tioga Environmental Consultants**

Report Number: **17-285-0206**

Shipping Method

☐ Fed Ex ☐ US Postal ☐ Lab ☐ Other :
☐ UPS ☒ Client ☐ Courier Thermometer ID:

Shipping container/cooler uncompromised?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Number of coolers received	<input type="text" value="1"/>		
Custody seals intact on shipping container/cooler?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Required
Custody seals intact on sample bottles?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Required
Chain of Custody (COC) present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC agrees with sample label(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC properly completed	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Samples in proper containers?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sample containers intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sufficient sample volume for indicated test(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
All samples received within holding time?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler temperature in compliance?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Water - Sample containers properly preserved	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Water - VOA vials free of headspace	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
Trip Blanks received with VOAs	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
Soil VOA method 5035 – compliance criteria met	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
<input type="checkbox"/> High concentration container (48 hr)	<input type="checkbox"/> Low concentration EnCore samplers (48 hr)		
<input type="checkbox"/> High concentration pre-weighed (methanol -14 d)	<input type="checkbox"/> Low conc pre-weighed vials (Sod Bis -14 d)		
Special precautions or instructions included?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

Comments:

Signature:

Date & Time:

